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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Wataru Ikeda

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EXAMINER

DAZENSKI, MARC A

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/572,980	Applicant(s) IKEDA ET AL.	
	Examiner MARC DAZENSKI	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3-22-06, 6-25-07, 2-15-08, 5-19-08, 5-30-08, 8-12-</u> | 6) <input type="checkbox"/> Other: _____. |
| <u>08, 11-3-08, 1-16-09.</u> | |

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O'Reilly, 56 U.S. (15 How.) at 112-14. Moreover, it does not appear that a claim reciting a signal encoded with functional descriptive material falls within any of the categories of patentable subject matter set forth in Sec. 101.

... a signal does not fall within one of the four statutory classes of Sec. 101.

... signal claims are ineligible for patent protection because they do not fall within any of the four statutory classes of Sec. 101.

Claims 1-2 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 1 is drawn to functional descriptive material recorded on a recording medium. Normally, the claim would be statutory. However, the specification, at page 89 defines the claimed computer readable medium as encompassing statutory media such as an optical disk as well as **non-statutory** subject matter such as "any form of recording media is applicable so long as there exists the capacity to record dynamic scenarios and index tables."

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A "signal" embodying functional descriptive material is neither a process nor a product (i.e., a tangible "thing") and therefore does not fall within one of the four statutory classes of § 101. Rather, "signal" is a form of energy, in the absence of any physical structure or tangible material.

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claim 9 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 9 defines a program embodying functional descriptive material. However, the claim does not define a computer-readable medium or computer-readable memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" – Guidelines Annex IV). The scope of the presently

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claimed invention encompasses products that are not necessarily computer readable, and thus NOT able to impart any functionality of the recited program.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 7, and 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsumagari et al (US PgPub 2003/0161615), hereinafter referred to as Tsumagari.

Regarding **claim 1**, Tsumagari discloses enhanced navigation system using digital information medium. Further, Tsumagari discloses DVD video disc (1) which contains both DVD video and enhanced navigation contents (30), the ENAV contents allowing each VTS to be played back by a method different from the VMG/VTSI prepared by the provider, which reads on the claimed, “a recording medium on which is recorded a plurality of titles between which branching is possible, and at least one application,” as disclosed at paragraph [0058] and [0064];

the ENAV contents containing playback control information which can be written in JavaScript, the playback control information further comprising synchronization information (information used to control to play back the DVD video contents in

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connection or combination with that of the ENAV contents at a predetermined timing), and duration information (information indicating the display time range or timing range of the ENAV contents), which reads on the claimed, "wherein each application is a program written in a virtual machine-oriented programming language, and a life cycle in which each application can be executed by a virtual machine is specified in advance," as disclosed at paragraphs [0066]-[0067];

DVD video disc (1) including control data VTSl for each video title set VTS as well as ENAV contents (30), which reads on the claimed, "each title includes a management table," as disclosed at paragraphs [0062] and [0064]-[0065]; and,

ENAV contents (30) contains playback information that describes playback methods (display method, playback order, playback switch sequence, selection of data to be played back, and the like), which reads on the claimed, "each management table shows one or more of the applications that has a life cycle bound to the title," as disclosed at paragraph [0065] and [0067].

Regarding **claim 2**, Tsumagari discloses everything claimed as applied above (see claim 1). Further, Tsumagari discloses ENAV contents (30) being stored on a disc (1), the ENAV contents comprising ENAV elements including markup language, script language with particular API's for DVD, image, audio, animation, which reads on the claimed, "archive files are recorded on the recording medium, each archive file storing data and a program that constitute a given application," as disclosed at paragraphs [0371]-[0380]; and,

the ENAV contents includes playback information, which reads on the claimed, “each application that has a life cycle bound to a title is expressed according to a combination of an identifier of the archive file that stores the application, and a title number that uniquely identifies the title,” as disclosed at paragraphs [0065] and [0067] and exhibited in figures 19-21.

Regarding **claim 3**, Tsumagari discloses enhanced navigation system using digital information medium. Further, Tsumagari discloses DVD video player (100) which plays back the contents of DVD video disc (1) which comprises both DVD video contents (10) and ENAV contents (30), which reads on the claimed, “a playback apparatus that simultaneously performs playback of a title that includes a digital stream, and execution of an application,” as disclosed at paragraphs [0058], [0074], and exhibited in figure 1; the apparatus comprising:

DVD Video playback controller (220) which can output a control signal indicating the playback condition of DVD video contents (10) in regards to a given event such as title jump, which reads on the claimed, “a module manager operable to control branching between a plurality of titles,” as disclosed at paragraph [0091];

DVD Video playback engine 200 which plays back DVD Video contents (10), which reads on the claimed, “a playback control engine unit operable to play a digital stream that belongs to one of a plurality of titles,” as disclosed at paragraph [0089]; and,

DVD video playback engine (200) starts playback of chapter n (initially n=1) in a given VTS, ENAV interpreter (330) plays back ENAV content m, DVD video playback engine (200) reads chapter number n whose playback is now underway, ENAV

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interpreter (330) checks is the ENAV playback information which is being executed includes a script of ENAV content “m+1”, and DVD video playback engine (200) continues (ST234) through (ST240) until playback of chapter n comes to an end, and upon completion begins to play back next chapter n+1, which reads on the claimed, “an application manager operable to, each time a branch between titles occurs, perform run control so as to run an application that has a life cycle bound to a branch destination title and termination control so as to terminate an application that does not have a life cycle bound to the branch destination title,” as disclosed at paragraphs [0267] - [0268], [0273], [0275], and [0277] and exhibited in figure 23.

Regarding **claim 7**, Tsumagari discloses everything claimed as applied above (see claim 3). Further, Tsumagari discloses executing a title jump operation during DVD video playback by utilizing “DVD event signals,” which reads on the claimed, “the branch is realized by an application interface that instructs the playback apparatus to jump to a title, the application includes a procedure to call the application interface, and the module manager executes the branching in response to the virtual machine decoding the procedure,” as disclosed at paragraphs [0091], [0109], [0111], and [0172]-[0182], as well as exhibited in figures 9-12.

Regarding **claim 9**, Tsumagari discloses enhanced navigation system using digital information medium. Further, Tsumagari discloses the functions of the DVD video player (1) can be implemented by software, which reads on the claimed, “a program that causes a computer to simultaneously perform playback of a title that includes a digital stream, and execution of an application,” as disclosed at paragraph

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[0366]; and further the remaining limitations of the claim are rejected in view of the explanation set forth in claim 3 above.

Regarding **claim 10**, Tsumagari discloses enhanced navigation system using digital information medium. Further the limitations of the claim are rejected in view of the explanation set forth in claim 9 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-6, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsumagari et al (US PgPub 2003/0161615), hereinafter referred to as Tsumagari, in view of Murase et al (US Patent 5,907,658), hereinafter referred to as Murase.

Regarding **claim 4**, Tsumagari discloses everything claimed as applied above. However, Tsumagari fails to disclose wherein each title includes an application management table that shows at least one application that has a life cycle bound to the title, and the run control by the application manager includes control for, when a branch between titles occurs, referring to the application management table of the branch destination title to judge whether an application exists that has a life cycle bound to the branch destination title, and, only when an application that has a life cycle bound to the

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branch destination title exists, running the application that has the life cycle bound to the branch destination. The examiner maintains it was well known in the art to include the missing limitations, as taught by Murase.

In a similar field of endeavor, Murase discloses a multimedia optical disk, reproduction apparatus and method for achieving variable scene development based on interactive control. Further, Murase discloses PGC command table which includes SET and BRANCH commands that are used to branch between different PGC's, which reads on the claimed, "wherein each title includes an application management table that shows at least one application that has a life cycle bound to the title, and the run control by the application manager includes control for, when a branch between titles occurs, referring to the application management table of the branch destination title to judge whether an application exists that has a life cycle bound to the branch destination title, and, only when an application that has a life cycle bound to the branch destination title exists, running the application that has the life cycle bound to the branch destination," as disclosed at column 20, lines 18-25; column 21, line 11 through column 22, line 24; column 27, lines 32-47; and exhibited in figures 12A-12B and 14.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the enhanced navigation system using digital information medium of Tsumagari to include PGC command table which includes SET and BRANCH commands that are used to branch between different PGC's, as taught by Murase, for the purpose of allowing a viewer to easily and seamlessly jump between titles on a DVD at the appropriate time.

Regarding **claim 5**, the combination of Tsumagari and Murase discloses everything claimed as applied above (see claim 4). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 4 above.

Regarding **claim 6**, Tsumagari discloses everything claimed as applied above (see claim 3). Further, the limitations of the claim are rejected in view of the explanation set forth in claim 4 above.

Regarding **claim 8**, Tsumagari discloses everything claimed as applied above (see claim 3). Further, Tsumagari discloses DVD video playback engine (200) starts playback of chapter n (initially n=1) in a given VTS, ENAV interpreter (330) plays back ENAV content m, DVD video playback engine (200) reads chapter number n whose playback is now underway, ENAV interpreter (330) checks is the ENAV playback information which is being executed includes a script of ENAV content “m+1”, and DVD video playback engine (200) continues (ST234) through (ST240) until playback of chapter n comes to an end, and upon completion begins to play back next chapter n+1, which reads on the claimed, “the application manager starts run control of the application upon normal playback of the digital stream of the branch destination title starting,” as disclosed at paragraphs [0267] - [0268], [0273], [0275], and [0277] and exhibited in figure 23.

However, Tsumagari fails to disclose playback of the digital stream by the playback control engine includes trick playback and normal playback. The examiner maintains it was well known to include the missing limitations, as taught by Murase.

In a similar field of endeavor, Murase discloses a multimedia optical disk, reproduction apparatus and method for achieving variable scene development based on interactive control. Further, Murase discloses management information pack DSI Packet which includes trick play information, which reads on the claimed, "playback of the digital stream by the playback control engine includes trick playback and normal playback," as disclosed at column 15, lines 16-25 and exhibited in figure 9.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the enhanced navigation system using digital information medium of Tsumagari to include management information pack DSI Packet which includes trick play information, as taught by Murase, for the purpose of allowing a viewer to manipulate both the direction and speed of the video contents during playback.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ye et al (US Patent 6,874,145) discloses methods and apparatus for implementing an application lifecycle design for applications.

Piesing et al (US Patent 7,493,011) discloses playback of applications with non-linear time.

Yamauchi et al (US Patent 5,907,659) discloses an optical disc for which a sub-picture can be favorably superimposed on a main image, and a disc reproduction apparatus and a disc reproduction method for the disc.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARC DAZENSKI whose telephone number is (571)270-5577. The examiner can normally be reached on M-F, 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (571)272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Marsha D. Banks-Harold/
Supervisory Patent Examiner, Art Unit 2621

/MARC DAZENSKI/
Examiner, Art Unit 2621

